AMENDMENTS TO THE CLAIMS

Please amend claims 1-6 and add claims 27-39 as shown below without prejudice or disclaimer. This listing of the claims replaces all prior versions and listings.

1. (Presently amended) A microfluidic reaction device comprising:

(a) a plurality of chambers having a first conduit and a second conduit;

(b) a first tapered transport channel having an interior surface ~~a first end, said first transport channel having a bypass channel at said first end~~, said first transport channel being in flow communication with at least one said chamber through connection with said first conduit; and

(c) a second tapered transport channel having an interior surface ~~a first end, said second transport channel having a bypass channel at said first end~~, said second transport channel being in flow communication with at least one said chamber through connection with said second conduit.

2. (Presently amended) The microfluidic device ~~in~~ of claim 1, wherein the interior surfaces of said first transport channel comprise a hydrophobic film.

3. (Presently amended) The microfluidic device ~~in~~ of claim 1, further comprise~~s~~ing one or more distribution channels in fluid communication with the transport channels.

4. (Presently amended) The microfluidic device ~~in~~ of claim 1, further comprise~~s~~ing oil in said first and second transport~~ation~~ channels and aqueous solution in said chambers.

5. (Presently amended) The microfluidic device ~~in~~ of claim 1, further comprise~~s~~ing gas in said first and second transport~~ation~~ channels and aqueous solution in said chambers.

6. (Presently amended) The microfluidic device ~~in~~ of claim 1, further comprise~~s~~ing beads in said chambers.

27. (New) The microfluidic device of claim 1, further comprising a bypass channel in fluid communication with the first tapered transport channel.

28. (New) The microfluidic device of claim 27 wherein the bypass channel is serpentine.

29. (New) The microfluidic device of claim 27 wherein the bypass channel surrounds the chamber(s).

30. (New) The microfluidic device of claim 1, wherein the chambers are capillary chambers.

31. (New) A microfluidic reaction device comprising:

(a) a plurality of chambers having a first conduit and a second conduit;

(b) a first tapered transport channel having an interior surface, said first transport channel being in flow communication with at least one said chamber through connection with said first conduit; and

(c) a second tapered transport channel having an interior surface, said second transport channel being in flow communication with at least one said chamber through connection with said second conduit, wherein passing a fluid through the microfluidic device provides a volume flow rate across the plurality of chambers which is substantially uniform.

32. (New) The microfluidic device of claim 31 wherein the flow rate variation among the chambers is 5%.

33. (New) The microfluidic device of claim 31 wherein the flow rate variation among the chambers is 10%.

34. (New) The microfluidic device of claim 31 wherein the flow rate variation among the chambers is 20%.

35. (New). The microfluidic device of claim 1 wherein at least one oligonucleotide comprising a first primer and a second primer is attached to at least one chamber and wherein a first cleavable moiety is located between the first and second primer and a second cleavable moiety is located between the primers and the chamber.

36. (New) The microfluidic device of claim 35 wherein the first and second cleavable moiety is reverse uridine.

37. (New) The microfluidic device of claim 35, wherein the oligonucleotide further comprises one or more binding probe sequences.

38. (New) The microfluidic device of claim 37, wherein the primers are separated from the probe(s) by a cleavable moiety.

39. (New) The microfluidic device of claim 27, wherein the cross-section area of the bypass channel is substantially larger than the first conduit.

39. (New) A symmetric microfluidic reaction device comprising:

(a) a plurality of chambers having a first conduit and a second conduit;

(b) a first tapered transport channel having an interior surface, said first transport channel being in flow communication with at least one said chamber through connection with said first conduit;

(c) a second tapered transport channel having an interior surface, said second transport channel being in flow communication with at least one said chamber through connection with said second conduit; and

(d) an inlet and outlet channel such that a fluid can be passed though the device either through the inlet or outlet channel.